

**Summary of Testimony of Michael J. Coda on behalf of The Nature Conservancy
before the Subcommittee on Science, Technology, and Space of the Senate Committee
on Commerce, Science and Transportation**

My name is Mike Coda. I am Vice President and Director of the Climate Change Program at The Nature Conservancy. The Nature Conservancy is a non-profit conservation organization founded in 1951. The Conservancy's mission is to protect rare and endangered plants, animals, and natural communities that represent the diversity of life on earth by protecting the lands and waters they need to survive..

I am happy to be here today to discuss the potential environmental benefits of carbon sequestration. Our organization has considerable experience in this area. We have been involved in pilot projects of this type in Brazil, Belize, Bolivia, and the United States. On these projects we have worked with other leading conservation organizations, groups that specialize in carbon management, governmental entities, and major corporations such as General Motors, British Petroleum and AEP. We have participated actively in the international discussions over these issues. Our comments are based on real world experience as well as academic analysis.

My discussion of carbon sequestration will focus on two aspects – 1) the impact on the build-up of greenhouse gases in the atmosphere and 2) the impact on biodiversity conservation and other key environmental imperatives. In each of these two areas, carbon sequestration can make an important contribution.

Let me first talk about the benefits to the climate. Fossil fuels are responsible for the bulk of emissions from human activity and will need to be addressed in order for society to have a chance to avoid significant climate change. However, approximately 22 percent of the annual output of greenhouse gases come from the land use sector, primarily the result of deforestation in tropical areas and emissions from agricultural activity. Thus, solutions addressing the land use sector are also needed. Making this area even more important, there is not only the potential to reduce current emissions from forestry and agriculture but also to sequester through reforestation some greenhouse gases already in the atmosphere. The IPCC estimates that as much as 10 percent of projected worldwide emissions between the years 1995 and 2050 could be offset by reforestation. This represents as much as 65 gigatons of carbon.

Serious analysis of the magnitude of the effort required to stabilize atmospheric concentrations of carbon dioxide also supports the need for policies promoting carbon sequestration. If the U.S. were to try to reduce its carbon dioxide emissions to 1990 levels, this would require a reduction of almost 11 percent from emission levels in the year 1998. Taking into account that fossil fuel emissions are growing because of rising demand for energy, we will need an even more significant reduction if we are to reach the levels that we emitted in 1990. We will certainly need all the tools available, including carbon sequestration, to achieve this objective.

Carbon sequestration aimed at improving land use also has many attractive attributes for climate change policy. Unlike some proposed solutions, it can be implemented rapidly and begin to have an impact on annual emissions almost immediately, depending on the scale of the program. While additional research and development to lower the cost of measurement of the climate benefits of carbon sequestration projects is necessary, current techniques are certainly accurate enough to support the types of legislation currently being considered. You will hear more on this subject from Winrock. Finally, carbon sequestration holds the promise of noticeably reducing the cost to the economy of addressing potential climate change. For example, cost estimates for compliance with the Kyoto Protocol typically range between \$25 and \$200 per ton carbon. Several pilot forest carbon sequestration projects, including ones in which The Nature Conservancy is involved, are already being implemented with costs typically less than \$10 per ton carbon.

In addition to positives related to climate change policy, a properly structured carbon sequestration program can provide a major boost for biodiversity conservation as well as leading to other potential environmental benefits like watershed protection and the prevention of soil erosion. You have heard a description of two projects involving The Nature Conservancy and American Electric Power in which funding from corporations looking to reduce their impact on the climate was used to protect globally significant natural areas that would otherwise have been deforested. Without climate change as a motivation for these donors, The Nature Conservancy would never have been able to raise the funds necessary for these projects. To raise almost \$10 million for the conservation of a single threatened forest in a far-off country like Bolivia is virtually unheard of within the conservation movement. In fact, it is an amount almost equal to what Congress appropriated in the last fiscal year for the Tropical Forest Conservation Act, the principal U.S. government program designed to protect tropical forests throughout the world.

Most of the activities that conservationists have encouraged for years to protect biodiversity also have a significant carbon benefit. The protection of tropical forests has long been a priority because these forests are the focus of much of the world's biological diversity and are under pressure everywhere. At the same time, tropical forests are particularly carbon-rich and the burning and destruction of these forests around the world is a major source of carbon dioxide emissions. Protecting them will help the atmosphere and further biodiversity conservation. In the U.S., protection of the old growth forests of the Northwest has been a major priority for conservationists. Again, these forests are, in general, some of the most carbon-rich on the planet. Protecting them avoids an enormous release of carbon dioxide. Conservationists have also encouraged forestland owners to use more sustainable forestry practices such as longer rotations and selective harvesting that will maintain the integrity of the relevant ecological system while allowing the forest owner to receive some economic benefit. In almost every case, these practices yield carbon benefits as well. In agriculture, conservationists have worked with farmers to adopt low-till or no-till techniques in order to control soil erosion. It turns out that these practices, too, also yield an important climate benefit.

There is the possibility that the happy coincidence between what is good for biodiversity and other environmental objectives and what is good for the atmosphere will end in the future. One can foresee the day of genetically engineered fast growing tree plantations designed simply to sequester carbon. That is why The Nature Conservancy and other groups believe it is extremely important that support for carbon sequestration be targeted at the protection and restoration of natural forests and improved agricultural practices and that no incentives be provided to projects that would involve the replacement of natural systems, no matter what the carbon impact.

In addition to this principle, we also believe that any incentive program for carbon sequestration must be focused on projects that truly have a benefit to the atmosphere. This means the projects promoted must meet the following tests:

- 1) Are they additional to what would have happened anyway? There is no benefit to the atmosphere from subsidizing projects that are already likely to happen for other reasons.
- 2) Do they displace the carbon-reducing activity to another area? If stopping the cutting of one forest merely leads to another forest being cut, there is no gain to the atmosphere.
- 3) Is the climate impact of the project measurable?
- 4) Does the project make a long-term impact? A project that merely delays the release of carbon for a short time period has little value to the atmosphere.

Our hope is that the benefits from the incentives created in your legislation can also be focused on projects that effectively address these issues.

For years, conservationists have correctly argued that the environment provides services to the economy that are not valued by our market system. A forest often protects a watershed for a major city, prevents soil erosion from steep hillsides in a storm-prone area, provides an attractive area for ecotourism that benefits the economy of local communities, and, particularly in tropical rainforests, harbors unusual plant and animal life that may help in the development of medicinal drugs. These forests are also critical to the functioning of the climate on our planet. Through legislation such as that sponsored by Senator Brownback and that sponsored by Senator Wyden, we see the potential for the first time to recognize the economic contribution that comes from these forests. Our hope is that, once this value begins to be recognized, society will come to see these forests differently. It will not be necessary to clear the trees or convert to residential development in order for landowners to obtain some value from these lands. It is for this reason that The Nature Conservancy applauds your efforts to

shape a carbon sequestration program. We look forward to working with you as these efforts move forward.

Thank you for the opportunity to address this important issue.